UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/753,400	01/03/2001	Michael Mesh	S0489/7008 GSE	1928

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ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 11/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
	09/753,400	MESH ET AL.
Office Action Summary	Examiner	Art Unit	
	AHMED ELALLAM	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>29 July 2006</u>.

2a) ☒ This action is **FINAL.**   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-20</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-20</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some *   c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Responsive to Amendment filed on 07/29/2006. The Amendment has

been entered.

Claims 1-20 are pending.

Claim Rejections - 35 USC § 112

1.   Claims 19,12-16 are rejected under 35 U.S.C. 112, first paragraph, as

failing to comply with the written description requirement. The claim(s) contains

subject matter which was not described in the specification in such a way as to

reasonably convey to one skilled in the relevant art that the inventor(s), at the

time the application was filed, had possession of the claimed invention.

Regarding claim 19, the specification as originally filed does not describe

the "at least two service ports, each receiving an incoming bit stream containing

one service". In particular, the specification discloses only one service port as

indicated on paragraph [0027].

First of all, all incoming traffic, received on a service port, is segmented. This
means that the incoming bit stream is segmented into variable-length segments.
The segments can be of predetermined fixed length for a particular kind of
service or traffic, such as constant bit rate services, while the length of the
segments for each service differs from one another.

In addition the drawing of figure 5 shows only one port.

Claims 12-16 depends from claim 19, thus they are subject to the same

rejections.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors

Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology

Technical Amendments Act of 2002 do not apply when the reference is a U.S.

patent resulting directly or indirectly from an international application filed before

November 29, 2000. Therefore, the prior art date of the reference is determined

under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C.

102(e)).

3.   Claims 1, 3, 4, 7-10, 12-20 are rejected under 35 U.S.C. 102(e) as being

anticipated by Ravikanth, US (6,331,978).

Regarding claim 17, Ravikanth discloses a method for packet processing

for data transmission over an optical fiber, the method comprising:

receiving a data stream of variable size packets, the packets may be Ipv4

or IPv6 packets or they may be based on any other network layer protocol, see

column 5, lines 39-41. (Examiner interpreted the data stream of variable size

packets to read on the claimed receiving at least two incoming bit streams of

data, because the data stream comprising different packet protocol and packet

length suggest that the packets come from different sources and therefore from

different data bit streams prior to being "multiplexed into one data stream,

claimed receiving at least two incoming bit streams of data containing one

service);

adding a label to the front of a datagram, see column 3, lines 30-35.

(Claimed adding a tag to a header of each segment, each tag including data

identifying a route between a source and destination). (Examiner interpreted the

label as the claimed tag, and the datagram as the segment), Ravikanth discloses

a data stream of variable size packets, the packets may be Ipv4 or IPv6 packets

or they may be based on any other network layer protocol, see column 5, lines

39-41. (Claimed segmenting bit segment of variable length, since IP packets can

have datagram of different length as suggested by the different size packets).

(Examiner also interpreted the presence of datagram is preceded by a form of

segmentation of a bit stream of data of at least one service).

Ravikanth further discloses that SONET is used for data transmission over

optical fiber, see column 1, lines 19-22. (Claimed processing each tagged

segments from said bit streams into a single transmission frame, Examiner

interpreted the SONET frames are used for the transmission of the datagrams as

the claimed single transmission frame);

Regarding claim 1, In addition to the above Ravikanth further discloses

that packet over SONET/SDH uses PPP encapsulation, see column 5, lines 14-

17, (Examiner interpreted the packet as been the datagram with the label

(claimed segment with the tag)), see column 5, lines 34-38. (Claimed

encapsulating tagged segment into a point-point protocol (PPP) packet in a

frame); Ravikanth further discloses that SONET is used for data transmission

over optical fiber, see column 1, lines 19-22. (Claimed mapping the encapsulated

packet into a transmission frame for transmission over an optical fiber).

Regarding claims 3 and 4, Ravikanth discloses using packet over

SONET/SDH, see column 5, lines 14-17. (Claimed transmission frame is a

Packet over SONET frame as in claim3; and the transmission frame is a Packet

over SDH frame , as in claim 4).

Regarding claim 7, Ravikanth discloses scrambling the payload of the

packet, see column 5, lines 39-48. (Claimed scrambling the encapsulated packet

before the step of mapping into a transmission frame).

Regarding claim 8, Ravikanth as discussed above, discloses adding a

label to the front of a datagram, see column 3, lines 30-35, the label being an

MPLS, see column 5, lines 52-56.

Regarding claim 9, claim 9 is rejected by way of symmetry since it has all

the reverse steps of base claim 1.

Regarding claim 10, claim 10 has the step of de-scrambling, since the

payload was scrambled (as indicated in claim 7), the reverse step of de-

scrambling is necessary to recreate the original datagram.

Regarding claim 18, Ravikanth discloses that point-to-point protocol is

deployed for new packet services see column 2, lines 1-9. (Since Ravikanth

implicitly discloses receiving datagram of multiple services as suggested by the use of PPP links, see column 5, lines 14-17). (Claimed incoming bit stream of data comprises at least two different services).

Regarding claims 12 and 19, Ravikanth discloses the functions of claims 12 and 19 as discussed above with reference to respective claim 1 and 17, inherently Ravikanth has the corresponding module to implement them.

Regarding claim 13, Ravikanth as indicated above discloses encapsulating the labeled datagram using a PPP protocol framing.

Regarding claims 14 and 15, Ravikanth discloses using packet over SONET/SDH, see column 5, lines 14-17. (Claimed transmission frame is a Packet over SONET/SDH frame.

Regarding claim 16, Ravikanth disclose adding a label to the front of a datagram, wherein the label is MPLS label. See column 3, lines 30-35. (Claimed add MPLS tag to a header of each segment).

Regarding claim 20, Ravikanth disclose adding a label to the front of a datagram, wherein the label is MPLS label. See column 3, lines 30-35. Ravikanth further discloses that in addition to the MPLS label identifier, fields like MAC bits, Class of Service bits may be included, see column 5, lines 55-59. (Examiner interpreted the feature of having MPLS fields of different type services provide for the flexibility to be implemented for data streams having the same service).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described
> as set forth in section 102 of this title, if the differences between the subject matter sought to
> be patented and the prior art are such that the subject matter as a whole would have been
> obvious at the time the invention was made to a person having ordinary skill in the art to which
> said subject matter pertains. Patentability shall not be negatived by the manner in which the
> invention was made.

4.　　　　Claims 2, 5, 6, and 11 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Ravikanth US (6,331,978) in view of Ndousse et al, PPP

Extensions for IP/PPP-HDLC over SONET-SDH/WDM, IEEE, 1999, pages 575-

580.

Regarding claim 2, Ravikanth as indicated above discloses encapsulating

the labeled datagram using a PPP protocol framing.

Ravikanth fails short of specifying that the PPP is a High bit rate Digital

Link Control (HDLC). (Claimed tagged segment is encapsulated into PPP packet

in a high bit rate Digital Link Control (HDLC)-like frame).

However, Ndousse discloses that encapsulating datagram into a PPP-

HDLC frames is a preferred encapsulation mechanism. See left column, page

576, and first paragraph.

Therefore, it would have been obvious to an ordinary person of skill in the

art, to use the PPP-HDLC encapsulation taught by Ndousse instead of the PPP

of Ravikanth so that Ravikanth's system can be used for 802.3 LAN traffic

(Ndousse). The advantage would be the ability to apply Ravikanth's

encapsulation to Ethernet traffic for transport over fiber optics using SONET/SDH

standards (Ndousse).

Regarding claims 5 and 6, Ravikanth discloses using packet over

SONET/SDH, see column 5, lines 14-17. (Claimed transmission frame is a

Packet over SONET frame as in claim 5; and the transmission frame is a Packet

over SDH frame, as in claim 6).

Regarding claim 11, as discussed above with reference to dependent

claims 2 and 5, Ravikanth in view Ndousse discloses encapsulating a labeled

datagram in a PPP-(HDLC)-like using packet over SONET frames. However,

Ravikanth in view Ndousse do not explicitly discloses the steps of de-packing,

de-capsulating, stripping and assembling the datagram (segment). However

Ravikanth in view Ndousse would naturally recognize the need to do these steps

since they are inherently the reverse steps implemented on the datagram. Such

steps are needed to recover the original data stream.

Response to Arguments

5.   Applicant's arguments filed 07/29/2006 have been fully considered but

they are not persuasive:

Applicants argue on page 9 of the Remarks *"The patent to Ravikanth*

relates to a generic label encapsulation protocol for carrying IP packets (packet-

based services). This protocol utilizes datagrams, which are pre- formed

conventional data packets. While the presence of a datagram indicates formation

of packets of at least one service, Ravikanth does not disclose or suggest

receiving two or more incoming bit streams, each including one service, and

segmenting the bit streams in their original protocols into variable length

segments, before adding an identifying tag and processing the segment for

transmission. On the contrary, the packet based services which are provided as

datagrams in Ravikanth can be segmented according to the claimed invention

and formed into the specialized packets of the invention, alone or with other

types of services". Emphasis added.

Examiner traverse Applicants' argument in that reference to Ravikanth

datagrams that are *"pre- formed conventional data packets"* actually reads on

Applicants data streams segments. In fact the bit stream of Applicants includes

pre-formed segments "i.e. packets" as evidenced by the disclosure, for example

the specification discloses having Ethernet frames data in the received bit

streams, the segmentation of the bit stream is understood to be a form of

isolating the Ethernet frames from the bit streams (claimed segmentation),

wherein the Ethernet frame may have already pre-formed lengths, see

specification paragraph [0027]. Therefore, the datagrams of Ravikanth do

correspond to the segments of variable length of the Applicants.

Ravikanth further discloses adding a label to the front of a datagram,

wherein the label is MPLS label. See column 3, lines 30-35, and in addition to the

MPLS label identifier, fields like MAC bits, Class of Service bits may be included,

see column 5, lines 55-59. Therefore contrary to Applicants' argument, the label

addition to each variable length datagram along the Class of Service implies that

the datagram are tagged in addition of the distinction of different class of service

for each datagram. As to the argument that *"Ravikanth does not disclose or suggest receiving two or more incoming bit streams, each including one service".* Examiner respectfully disagrees, the class of service addition to the labeled datagrams suggest that datagrams each correspond to service should belong to a different data stream prior to the "segmentation" of Ravikanth. While Applicants may argue that Ravikanth only discloses one bit stream, the presence of different class of service segments within the one bit stream suggest that the one bit stream of Ravikanth may be subjected to multiplexing of different bit streams each having at least one service into the one bit stream prior to "segmentation". A person of skill in the art would recognize that different sources of traffic classes (claimed at least two bit streams each having one service) are within the teaching of Ravikanth as evidenced by the presence of class of service indication along different length datagrams. Therefore and contrary to Applicants' argument Ravikanth does teach *"receiving two or more incoming bit streams, each including one service, and segmenting the bit streams in their original protocols into variable length segments, before adding an identifying tag and processing the segment for transmission".*

On page 9, Applicants provided a chart for arguing that:

"Ravikanth deals only with Ethernet services which are sent via IP protocol. He cannot include voice services, video streaming services, storage services, or fiber channel services, for example, since they are not label switched packets. Thus, he can send Ethernet services from any protocol layer (e.g., IP,

MPLS), *but not different services.*" Emphasis added. Applicants further argue in

the last paragraph of page 9 that:

"*The claimed invention, on the other hand, is a method for multiplexing*

(combining together) a plurality of different bit streams and services into a single

packet. Thus, segments of bit streams of voice services can be combined with

segments of bit streams of video streaming services and with segments of bit

streams of Ethernet services". Emphasis added.

Examiner notes that Applicants' arguments with regard to the feature of

"*multiplexing (combining together) a plurality of different bit streams and services*

into a single packet", is neither claimed nor described, further the argument that

"*segments of bit streams of voice services can be combined with segments of bit*

streams of video streaming services and with segments of bit streams of

Ethernet services" are not related to the claimed subject mater.

Applicants are kindly requested to provide reference of the chart relied

upon to be valid evidence and not of Applicants' own conclusion. The reasons

behind this request it that MPLS (Multi-protocol label switching) is defined

contrary to the chart provided. For example one definition of the MPLS is given

as: **(MultiProtocol Label Switching)** A standard from the IETF for including

routing information in the packets of an IP network. MPLS is used to ensure that

all packets in a particular flow take the same route over a backbone. Deployed by

many telcos and service providers, MPLS can deliver the quality of service (QoS)

required to support realtime voice and video as well as service level agreements

(SLAs) that guarantee bandwidth. Large enterprises may also use MPLS in their

national networks. (See http://www.answers.com/topic/mpls).

Applicants argue that: "The Ndousse article on PPP Extensions examines the

dynamics of IP traffic over SONET/SDH using PPP in HDLC- like framing. There

is no disclosure or suggestion in Ndousse of the method of forming specialized

packets from two or more bit streams, as claimed in amended claim 17".

Emphasis added.

Examiner respectfully disagrees, Examiner notes that Ravikanth as

indicated above does teach the forming specialized packets (labeled datagrams)

from two or more bit streams, and that Ndousse does not need to teach what is

already taught by Ravikanth, Ndousse was used to complement Ravikanth of not

explicitly teaching encapsulating datagram into a PPP-HDLC frames, however

Ndousse provide such feature and a prima facie case of obviousness is believed

to be properly established as indicated in the rejections above.

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure: See Form PTO-892.

7.   Applicant's amendment necessitated the new ground(s) of rejection

presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.**
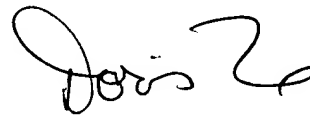
See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as

set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire

THREE MONTHS from the mailing date of this action. In the event a first reply is

filed within TWO MONTHS of the mailing date of this final action and the advisory

action is not mailed until after the end of the THREE-MONTH shortened statutory

period, then the shortened statutory period will expire on the date the advisory

action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

calculated from the mailing date of the advisory action. In no event, however, will

the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

Any inquiry concerning this communication or earlier communications from

the examiner should be directed to AHMED ELALLAM whose telephone number

is (571) 272-3097. The examiner can normally be reached on 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, To Doris can be reached on (571) 272-7629. The fax

phone number for the organization where this application or proceeding is

assigned is 571-273-8300.

DORIS H. TO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

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A. ELALLAM
Examiner
Art Unit 2616
October 28, 2006